

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sherman Bassinger Examiner #: 59151 Date: 11-6-02
Art Unit: 3617 Phone Number 308-1139 Serial Number: 10/066414
Mail Box and Bldg/Room Location: PKS 6003 Results Format Preferred (circle): PAPER DISK E-MAIL

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Title of Invention: Outboard motor exhaust system
Inventors (please provide full names): Naoki Hiraoka; Masaoi Takahashi;
Atsushi Isogami
Earliest Priority Filing Date: 05/15/1996

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

5,893,783

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: <u>EA</u>	NA Sequence (#)	STN	
Searcher Phone #: <u>308-1139</u>	AA Sequence (#)	Dialog <input checked="" type="checkbox"/>	
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Date Searcher Picked Up:	Bibliographic	Dr. Link	
Date Completed: <u>11/6/02</u>	Litigation	Lexis/Nexis	
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Source: [Legal > Area of Law - By Topic > Patent Law > Patents > U.S. Patents > Utility, Design and Plant Patents](#) ⓘ
Terms: **patno=5893783** ([Edit Search](#))

857016 (08) 5893783 April 13, 1999

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT
5893783

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April 13, 1999

Outboard motor exhaust system
INVENTOR: Hiraoka, Noriyoshi, Hamamatsu, JP; Takahashi, Masanori, Hamamatsu, JP;
Isogawa, Atsushi, Hamamatsu, JP

APPL-NO: 857016 (08)

FILED-DATE: May 15, 1997

GRANTED-DATE: April 13, 1999

CORE TERMS: exhaust, engine, cylinder, bank, coolant, fuel, valley, cooling, combustion chamber, cylinder block ...

ENGLISH-ABST:

An exhaust system for an outboard motor powered by an internal combustion engine is disclosed. Preferably, the engine is of the "V"- type, having first and second banks defined by first and second cylinder heads connected to a cylinder block. Each bank contains at least one combustion chamber, and the banks define a valley extending therebetween along a length of the engine. A main exhaust passage is defined through each cylinder head generally within the valley, and an exhaust passage extends from each combustion chamber of a bank to the main exhaust passage of that bank. The main exhaust passages of the two banks join into a single passage.

Source: [Legal > Area of Law - By Topic > Patent Law > Patents > U.S. Patents > Utility, Design and Plant Patents](#) ⓘ
Terms: **patno=5893783** ([Edit Search](#))
View: KWIC ± 25
Date/Time: Wednesday, November 6, 2002 - 3:58 PM EST

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Current session 06/11/2002 QWEB Questel-Orbit
Query/Command : us5893783/pn

**** SS 1: Results 1**

Search statement 2

Query/Command : PRT SS 1 MAX 1 LEGALALL

1 / 1 PLUSPAT - ©QUESTEL-ORBIT - image

Patent Number :

US5893783 A 19990413 [US5893783]

Title :

(A) Outboard motor exhaust system

Patent Assignee :

(A) SANSIN KOGYO KK (JP)

Inventor(s) :

(A) HIRAOKA NORIYOSHI (JP); ISOGAWA ATSUSHI (JP); TAKAHASHI
MASANORI (JP)

Application Nbr :

US85701697 19970515 [1997US-0857016]

Priority Details :

JP13614696 19960530 [1996JP-0136146]
JP11994796 19960515 [1996JP-0119947]
JP13325096 19960528 [1996JP-0133250]

Intl Patent Class :

(A) B63H-021/38

EPO ECLA Class :

B63H-021/26F6
F01N-003/04B2
F01N-007/10
F01N-007/12
F02B-061/04B
F02B-075/22

EPO ICO Class :

R02B-075/02S4
R02B-075/18C6

US Patent Class :

ORIGINAL (O) : 440088000; CROSS-REFERENCE (X) : 060323000 123041080

123179250 440089000

Document Type :

Basic

Citations :

US3431882; US3994129; US4787344; US4951465; US5003934; US5109809;
US5476402; US5752866; US5803023

Publication Stage :

(A) United States patent

Abstract :

An exhaust system for an outboard motor powered by an internal combustion engine is disclosed. Preferably, the engine is of the "V"-type, having first and second banks defined by first and second cylinder heads connected to a cylinder block. Each bank contains at least one combustion chamber, and the banks define a valley extending therebetween along a length of the engine. A main exhaust passage is defined through each cylinder head generally within the valley, and an exhaust passage extends from each combustion chamber of a bank to the main exhaust passage of that bank. The main exhaust passages of the two banks join into a single passage.

1 / 1 LGST - ©LEGSTAT

Patent Number :

US 5893783 [US5893783]

Application Details :

US 857016/97 19970515 [1997US-0857016]

Document Type :

US-P

Action Taken :

19970515 US/AE-A
APPLICATION DATA (PATENT)
US 857016/97 19970515 [1997US-0857016]

19971027 US/AS02
ASSIGNMENT OF ASSIGNOR'S INTEREST
SANSIN KOGYO KABUSHIKI KAISHA 1400 NIPPASHI-CHO,
HAMAMATSU-SHI SHIZUOKA-KEN, JA * HIRAOKA, NORIYOSHI : 19970515;
TAKAHASHI, MASANORI : 19970515; ISOGAWA, ATSUSHI : 19970515

19990413 US/A
PATENT

20010821 US/CC

CERTIFICATE OF CORRECTION

20020827 US/RF
REISSUE APPLICATION FILED
20020201

Update Code :

2002-38

1 / 1 CRXX - ©CLAIMS/RRX

Patent Number :

5,893,783 A 19990413 [US5893783]

Patent Assignee :

Sanshin Kogyo K K JP

Actions :

20020201 REISSUE REQUESTED
ISSUE DATE OF O.G.: 20020827
REISSUE REQUEST NUMBER: 10/066414
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 3612

Reissue Patent Number:

1 / 2 PAST - ©Thomson Derwent

Accession Number :

200235-001789

Patent Number :

5893783 A [US5893783]

Official Gazette Date :

2002-08-27

Actions :

REISSUE APPLICATION FILED

2 / 2 PAST - ©Thomson Derwent

Accession Number :

200134-000381

Patent Number :

5893783 A [US5893783]

Official Gazette Date :

2001-08-21

Actions :

CERTIFICATE OF CORRECTION

Query/Command : file inpadoc

Query/C mmand : us5893783/pn

**** SS 1: Results 1**

Search statement 2

Query/Command : PRT SS 1 MAX 1 LEGAL

1 / 1 INPADOC - ©INPADOC

Patent Number :

US 5893783 A 19990413 [US5893783]

Title :

OUTBOARD MOTOR EXHAUST SYSTEM

Inventor(s) :

HIRAOKA NORIYOSHI [JP]; TAKAHASHI MASANORI [JP]; ISOGAWA
ATSUSHI [JP]

Patent Assignee (Words) :

SANSHIN KOGYO KK [JP]

Application Details :

US 857016/97-A 19970515 [1997US-0857016]

Priority Details :

JP 136146/96-A 19960530 [1996JP-0136146]

JP 119947/96-A 19960515 [1996JP-0119947]

JP 133250/96-A 19960528 [1996JP-0133250]

Intl. Patent Class. :

B63H-021/38

1 / 1 LGST - ©LEGSTAT

Patent Number :

US 5893783 [US5893783]

Application Details :

US 857016/97 19970515 [1997US-0857016]

Document Type :

US-P

Action Taken :

19970515 US/AE-A
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US 857016/97 19970515 [1997US-0857016]

19971027 US/AS02

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SANSHIN KOGYO KABUSHIKI KAISHA 1400 NIPPASHI-CHO,
HAMAMATSU-SHI SHIZUOKA-KEN, JA * HIRAOKA, NORIYOSHI : 19970515;
TAKAHASHI, MASANORI : 19970515; ISOGAWA, ATSUSHI : 19970515

19990413 US/A

PATENT

20010821 US/CC

CERTIFICATE OF CORRECTION

20020827 US/RF

REISSUE APPLICATION FILED

20020201

Update Code :

2002-38

Query/Command : ..st

Query/Command : us5893783/pn

**** SS 2: Results 1**

Search statement 3

Query/Command : PRT SS 2 MAX 1 LEGALALL

1 / 1 PLUSPAT - ©QUESTEL-ORBIT - image

Patent Number :

US5893783 A 19990413 [US5893783]

Title :

(A) Outboard motor exhaust system

Patent Assignee :

(A) SANSHIN KOGYO KK (JP)

Inventor(s) :

(A) HIRAOKA NORIYOSHI (JP); ISOGAWA ATSUSHI (JP); TAKAHASHI
MASANORI (JP)

Application Nbr :